Responsible Conduct of Research program for Postdoctoral Scholars (RCR-PS)
Course Syllabus
Office for Postdoctoral Scholars, UC San Francisco

Dates: Tuesdays and Thursdays, January 14 — February 27, 2020
Time: 3-4:30 p.m.
Locations:

- Tuesdays at Parnassus, School of Nursing, N-721
- Thursdays at Mission Bay, Mission Hall, MH-1400

The UCSF Responsible Conduct of Research Program for Postdoctoral Scholars (RCR-PS) is a thought-provoking, seven-session course designed to satisfy NIH and NSF requirements for training in the responsible conduct of research.

Unique to the postdoctoral training experience, the RCR-PS program utilizes a combination of faculty presentations and in-person case study discussion during each 1.5-hour session to address contemporary debates at the interface between biomedical science and society. With attention to the tools and resources requisite of successful, ethical research careers, postdocs will meet with a community of UCSF faculty, staff, and postdocs to discuss issues such as:

- Societal implications of scientific misconduct
- Scientific entrepreneurship and the university-industry interface and conflicts of interest
- Collaborative science: data management, sharing, and ownership
- Responsible authorship, publication, and peer review
- Animal welfare in research
- Science in the genomic era: biomedical research and human subjects
- Mentor and mentee responsibilities and relationships.

Program Director
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Program Coordinator *(primary point of contact)*
Jhia Jackson, MS
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Please plan to arrive five minutes early. Due to the large class size, we will need the first 5-10 minutes to scan in your attendance, address any administrative concerns, find seats, and to silence and stow away electronic devices.

Each week, the same topic will be covered on both days. Participants can elect to attend a session on either Tuesday or Thursday. Please try to maintain consistent attendance at one campus and switch as conflicts arise.

Week	**Topic** *(title shortened)*	**Parnassus Date**	**Mission Bay Date**
I	Research Misconduct	1/14 at N-721	1/16 at MH 1400
II	COI & the University-Industry Interface	1/21 at N-721	1/23 at MH 1400
III	Animal Ethics	1/28 at N-721	1/30 at MH 1400
IV	Publication	2/4 at N-721	2/6 at MH 1400
V	Human Ethics	2/11 at N-721	2/13 at MH 1400
VI	Data Management	2/18 at N-721	2/20 at MH 1400
VII	Mentorship	2/25 at N-721	2/27 at MH 1400

Statement on Accommodation

UCSF is committed to making its facilities, activities and events accessible. To request accommodations for this activity or event, please contact the program coordinator at postdocs@ucsf.edu at least 1 week before the next class, or contact Disability Management. In compliance with Education Code Section 92640(a), students may arrange to turn in course deliverables at a time that does not conflict with their religious observances.

Program Requirements and Information

I. Course Learning Objectives

Adapted from Dubois and Dueker's 2009 article "Teaching and Assessing the Responsible Conduct of Research: A Delphi Consensus Panel Report"

- To increase familiarity with US policies and regulations regarding biomedical research, including federal definitions, their limitations, and their development;
- To foster research integrity, professionalism, and the ability to identify ethic issues in biomedical research;
- To re/introduce resources at UCSF and beyond for topics and issues related to the responsible conduct of research.

II. Attendance

The RCR-PS course is seven sessions. To receive a "*course completion letter*," the participant must attend all seven sessions at either campus location. **For full attendance to count, you must be physically being in the classroom for the duration of instruction, scanning in, AND returning the online session evaluation.**

NOTE: Participants must sign-in at the beginning of class, be present for the entire class, and return the online session evaluation. *Attendance scanners will be removed 10 minutes after the start of class.*

Should you miss any class, listed below are the options available to you:

- **Option #1: Absent for *one* session:**

If a participant must miss one session, they may still get credit for the full course by submitting a "*think piece*" as described below. For example, if a participant attends 6 sessions and submits a think piece for the 7th, they can still receive a "course completion letter." If the participant misses one session and does not submit a "think piece" or misses multiple sessions, option #2 will apply.

Think Piece (*Only as make-up for one missed session*)
In the event that you miss a session, you will have the opportunity to fulfill the course deliverables and advance your understanding of the material by producing a "think piece," thereby critically evaluating the topic as it relates to your own research experience. The think piece should include a discussion of the lecture materials, readings, case studies, weekly "Ethics Forum" posts, and/or a reflection on the relevance of the weekly theme for your own research.

Format Requirements:

- 1-2 pages; double spaced; one-inch margins; name; title of missed session
- Word document saved as "*LastName.FirstName.TP2020*"
- Original work; citations should be consistent but do not need to be in a specific format

Due: Wednesday, March 11th, 2020 at 11:59pm PST to the program coordinator (postdocs@ucsf.edu).

- **Option #2: Absent for *more than one* session:**

If the participant can only attend a few of the sessions, we will issue a letter listing the individual sessions attended. For example, if a participant only attends three sessions, their letter will verify completion of those three, specific topics. The letter will not suggest “failed” or “incomplete” RCR training. It will simply confirm the specific training completed for a subset of the topics that NIH suggests is acceptable. If the NIH grant program officer asks for verification of a participant’s RCR training activity, the participant will be able to present the “letter of completion” for some of the suggested topics. *The Office for Postdoctoral Scholars cannot guarantee that partial participation in RCR-PS shall be deemed sufficient by your Program Officer.*

III. Online Ethics Forum

The optional ethics forum is an opportunity for you to apply the themes of each session to real-life challenges, questions, concerns, and ruminations. For your contribution to the forum, please respond to the posted question(s) or questions posed during the discussion; pose your own questions; and/or dialogue with fellow participants regarding the session topic. These need not be polished; however, they should reflect how *you* experience and make sense of the weekly topic.

Detailed Program Schedule

Session 1: Societal Implications of Scientific Misconduct
Facilitators: Mark Ansel, PhD and Anthony DeFranco, PhD

This opening session addresses societal implications of scientific misconduct. Training in this topic also addresses ethical issues involved in the development and dissemination of scientific research findings and how to report occurrences of scientific misconduct.

Session specific learning objectives:

- To review and understand the NIH's definition of Research Misconduct; to understand the responsibilities of scientists to report possible Research Misconduct if there is good reason to think it has occurred; and to be aware of institutional procedures for reporting suspected Research Misconduct at UCSF. To aid in these Objectives, lessons that can be derived from actual cases of Research Misconduct will be discussed.
- To review and discuss evolving efforts within the scientific community and by key stakeholders (funding agencies, scientific journals, etc.) to address suboptimal research practices that may reduce the reliability of research results and impede scientific progress.

Session 2: Scientific Entrepreneurship and the University-Industry Interface
Facilitators: Ioana Aanei, PhD; Priya Ramu, PhD; Joseph Bondy-Denomy, PhD

This session addresses conflicts of interest (COI) at the university-industry interface. An interest may be defined as a commitment, goal, or value held by an individual or an institution. A conflict of interest exists when two or more contradictory interests relate to an activity by an individual or an institution. The conflict lies in the situation, not in any behavior or lack of behavior of the individual. A conflict of interest in research exists when “the individual has interests in the outcome of the research that may lead to a personal advantage and that might therefore, in actuality or appearance compromise the integrity of the research." NAS, Integrity in Scientific Research.

Session specific learning objective:

- To increase the ability to a) identify and manage conflict of interest in research and, b) identify stakeholders, distinguish their interests, and create plans for problem-solving in the context of scientific entrepreneurship

Session 3: Animal Welfare in Research
Facilitators: Gina Alvino, PhD and Melissa Reeves, PhD

This session addresses issues important in the use of animals in conducting research. Includes topics such as definition of research involving animals, ethical principles for conducting research on animals, federal regulations governing animal research, institutional animal care and use committees, and treatment of animals.

Session specific learning objectives:

- To understand the importance of proper animal welfare practices in research and to understand why positive animal welfare equates to quality science.
- To provide a framework for how to practically implement good animal welfare practices in a research lab.
- To familiarize the audience with regulations governing ethical use of animals in research (resulting from noteworthy legal cases) and to provide relevant resources on these guidelines.

Session 4: Responsible Authorship, Publishing, and Peer Review
*Facilitators: Anneliese Taylor, MLIS and Michael McManus, PhD. *Content support: Elizabeth Silva, PhD*

This topic examines the responsibilities of authors in scientific publication. It includes procedures for assigning credit and authorship, the responsibilities of each author, as well as accepted practices for detailing methods, analyses and results and including appropriate citations. It also can focus on some of the pitfalls such as the pressure to publish.

Session specific learning objectives:
- To examine the responsibilities and ethical considerations of publishing for scientific and non-scientific audiences
- To discover how the peer review process works, including becoming a reviewer or editor

Session 5: Biomedical Research and Human Subjects
Facilitators: Brian Dolan, PhD and Scott VandenBerg, MD, PhD

This session addresses complex issues pertaining to biomedical research and human subjects' protections, including privacy, confidentiality, and protection of human tissue donors. The development of U.S federal policies and practices are discussed from a sociohistorical perspective and linked to contemporary issues, such as the inclusion of vulnerable populations and the ownership of research products. Related topics such as data management, consent and disclosure, and scientific methodology issues are also introduced.

Session specific learning objectives:
- To reflect on the variety of ethical considerations that arise when humans are involved in the material aspects of biomedical research, including the use of living human subjects and human biological materials
- To examine the social and historical complexities surrounding the development of policies and practices related to the theme of "human subjects in research"

Session 6: Collaborative science: data management, sharing and ownership
Facilitators: Ariel Deardorff, MLIS

The data management topic covers accepted practices and procedures for acquiring, storing, organizing, documenting, analyzing, sharing and maintaining data. The goal is to provide researchers with the tools and skills they need to integrate data management into their research workflow. Learn how to write a data management plan, comply with funder and journal requirements for data sharing, and organize your projects for reproducibility.

Session specific learning objectives:
- Write a data management plan for your research project that addresses:
    - Data collection and classification
    - Data organization and documentation
    - Secure data storage
    - Data sharing, de-identification, and preservation
- Identify and utilize relevant UCSF resources and contacts to meet data collection, privacy, security, and sharing requirements for your research

Session 7: The Art of Mentorship
Facilitators: Ellen Goldstein, MA and Michelle Arkin, PhD

This session highlights the unique opportunity for postdocs to both give and receive mentorship, emphasizing research team and lab dynamics that incorporate the presence of PIs, senior researchers, and graduate students. Skill-building activities around negotiation, mediation, and decision-making will be included, coupled with examples of the role of mentorship in scientific achievement and career direction.

Session specific learning objectives:

- To identify power structures and hierarchical relationships within science and related mentoring relationships
- To identify and practice skills that optimize the giving and receiving of mentorship within the UCSF scientific community